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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,599	03/15/2004	Sung-hee Hwang	1293.1865	8270

49455 7590 12/12/2006

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EXAMINER

BIBBINS, LATANYA

ART UNIT PAPER NUMBER

2627

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/799,599	HWANG ET AL.	
	Examiner	Art Unit	
	LaTanya Bibbins	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 16-21, 29-35 and 39-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29-33 and 41 is/are allowed.
- 6) ☒ Claim(s) 1-7, 16-21, 34, 35, 39, 40, 42, and 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Preliminary Amendment

2. Receipt is acknowledged of the preliminary amendment filed on September 16, 2005. In the amendment, claims 8-15, 22-28, and 36-38 were canceled, claims 1, 2, 5-7, 16, 19-21, 29-37 were amended, and claims 39-43 were added. Currently claims 1-7, 16-21, 29-35, and 39-43 are pending.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **the replacement area, the temporary defect management area, and the defect management area (DMA) of the recording medium must be shown** or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

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is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 16-19, 21, 42, and 43 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 3, 5, 7, 23, and 24 of copending Application No. 11/227,922 (herein referred to as '922). Although the conflicting claims are not identical, they are not patentably distinct from each other.

Regarding claim 16, claim 1 of '922 recites a method of managing a defect in a recording medium, comprising: recording data to a replacement area for a defective area of the recording medium in a spare area; and recording temporary management information identifying the defective area and the corresponding replacement area in a temporary defect management area of the recording medium, wherein position information regarding the defective area is recorded in the replacement area.

Regarding claim 17, claim 2 of '922 recites the method of claim 1 of '922, wherein the temporary management information is recorded in the temporary defect management area in at least one of a lead-in area and a lead-out area of the recording medium.

Regarding claim 18, claim 3 of '922 recites the method of claim 1 of '922, further comprising recording temporary management information, which is lastly recorded in the temporary defect management area, in a defect management area (DMA) during a finalizing of the recording medium.

Regarding claim 19, claim 5 of '922 recites the method of claim 1 of '922, wherein state information regarding the defective area is recorded in the replacement area.

Regarding claim 21, claim 7 of '922 recites the method of claim 5 of '922, wherein the position information and state information and ECC encoded data are recorded in the replacement area.

Apparatus claims 16-19 and 21 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1-3, 5, and 7 of '922. Further the controller of claims 16-19 and 21 simply performs the method of claims 1-3, 5, and 7 of '922. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the method of managing a defect in a recording medium recited in claims 1-3, 5, and 7 of '922 in the controller of the apparatus of claim 16-19 and 21.

Regarding claim 42, claim 23 of '922 recites a method of rebuilding temporary defect information of a recording medium, the method comprising: reading information regarding a defective area of the recording medium from a replacement area of the recording medium, the replacement area including position information regarding the defective area; and generating temporary defect information based on previous temporary defect information of the recording medium and the information of the replacement area of the recording medium.

Regarding claim 43, claim 24 of '922 recites the method of claim 23 of '922, further comprising generating a defect list based on the information of the replacement area, wherein the generating of the temporary defect information comprises generating the temporary defect information based on the previous temporary defect information and the defect list.

Apparatus claims 42 and 43 are drawn to the apparatus corresponding to the method of using same as claimed in claims 23 and 24 of '922. Further the controller of claims 42 and 43 simply performs the method of claims 23 and 24 of '922. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the method recited in claims 23 and 24 of '922 in the controller of the apparatus of claim 42 and 43.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 34 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 34 recites the limitation "the recording state." There is insufficient antecedent basis for this limitation in the claim.

Claim 35 does not resolve the deficiencies of claim 34.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-7, 16, 17, 19-21, 39, 40, 42, and 43 are rejected under 35

U.S.C. 102(e) as being anticipated by Takahashi (US PGPub No. 2002/0136537 A1).

Regarding claim 1, a recording medium, comprising: a spare area storing a replacement area that is a substitute for a defective area of the recording medium (see Figure 19 where both the spare area and replacement areas are located between the inner and outer peripheries); and a temporary defect management area storing temporary management information identifying the defective area and the replacement area (see Figure 19 and the DMA area, located between the inner and outer peripheries, and the discussion in paragraphs [0111] and [0104] regarding updating defect management information in the DMA), wherein position information regarding the defective area is recorded in the replacement area (see paragraphs [0074] and [0075] where the DMA contains PDLs and SDLs, both of which indicate defective sectors).

Regarding claim 2, the recording medium of claim 1, wherein the temporary management information is updated in the temporary defect management area every recording operation or in response to a predetermined number of recording operations (see paragraph [0111] and the discussion of movement 22 where the DMA is updated).

Regarding claim 3, the recording medium of claim 2, further comprising a defect management area (DMA) in which temporary management information lastly updated in

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the temporary defect management area is recorded (see paragraph [0109] where DMA position 1 and DMA position 2 are rewritten to reflect the information regarding the DMA).

Regarding claim 4, the recording medium of claim 3, wherein the DMA is in at least one of a lead-in area and a lead-out area of the recording medium (see Figure 19 and DMA position 1 and DMA position 2 located in the inner periphery).

Regarding claim 5, the recording medium of claim 1, wherein state information regarding the defective area is recorded in the replacement area (see paragraphs [0074] and [0075] where the DMA contains PDLs and SDLs).

Regarding claim 6, the recording medium of claim 5, wherein the position information and state information regarding the defective area are error-correction code (ECC) encoded during ECC encoding of data recorded in the replacement area (see Figure 4 and paragraph [0066] where data is recorded in ECC format).

Regarding claim 7, the recording medium of claim 5, wherein ECC encoded data and the position information and state information are recorded in the replacement area (see Figure 4 and paragraph [0066] where data is recorded in ECC format).

Regarding claim 16, an apparatus, comprising: a recording/reading unit recording and/or reading data with respect to a recording medium (see the pick up head of Figure 12 element 203); and a controller (see the main control section of Figure 12 element 210 and the description of the functions of the main control section in paragraphs [0100] and [0102]) controlling the recording/reading unit to record data to a replacement area, for a defective area of the recording medium, in a spare area of the

recording medium (see Figure 19 where both the spare area and replacement areas are located between the inner and outer peripheries), to record temporary management information identifying the defective area and the replacement area in a temporary defect management area (see Figure 19 and the DMA area, located between the inner and outer peripheries, and the discussion in paragraphs [0111] and [0104] regarding updating defect management information in the DMA), and to record position information regarding the defective area in the replacement area (see paragraphs [0074] and [0075] where the DMA contains PDLs and SDLs, both of which indicate defective sectors).

Regarding claim 17, the apparatus of claim 16, wherein the controller controls the recording/reading unit to record the temporary management information in the temporary defect management area formed in at least one of a lead-in area and a lead-out area of the recording medium (see Figure 5 where the DMA1 and DMA2 are located in the lead-in area).

Regarding claim 19, the apparatus of claim 16, wherein the controller controls the recording/reading unit to record state information regarding the defective area in the replacement area (see paragraphs [0074] and [0075] where the DMA contains PDLs and SDLs).

Regarding claim 20, the apparatus of claim 19, wherein the controller controls the recording/reading unit to ECC encode the position information and the state information with data to be recorded in the replacement area (see Figure 4 and paragraph [0066] where data is recorded in ECC format).

Regarding claim 21, the apparatus of claim 19, wherein the controller controls the recording/reading unit to record the position information and state information and ECC encoded data in the replacement area (see Figure 4 and paragraph [0066] where data is recorded in ECC format).

Regarding claim 39, the recording medium of claim 1, wherein the temporary defect management area is in at least one of the lead-in area and the lead-out area (see Figure 5 where the DMA1 and DMA2 are located in the lead-in area).

Regarding claim 40, the apparatus of claim 16, wherein the controller controls the recording/reading unit to record temporary management information lastly recorded in the temporary defect management area in a defect management area (DMA) in at least one of the lead-in area and the lead-out area (see paragraph [0109] where DMA position 1 and DMA position 2 are rewritten to reflect the information regarding the DMA and in Figure 19 where DMA position 1 and DMA position 2 are located in the inner periphery).

Regarding claim 42, an apparatus, comprising: a recording/reading unit recording and/or reading data with respect to a recording medium (see the pick up head of Figure 12 element 203); and a controller (see the main control section of Figure 12 element 210 and the description of the functions of the main control section in paragraphs [0100] and [0102]) controlling the recording/reading unit to read information regarding a defective area of the recording medium from a replacement area of the recording medium (see paragraph [0103] and Figure 19 where defect management information is read from the DMA which is located in a replacement area between the

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inner and outer peripheries), the replacement area including position information regarding the defective area (see paragraphs [0074] and [0075] where the DMA contains PDLs and SDLs, both of which indicate defective sectors), and generating temporary defect information based on previous temporary defect information of the recording medium and the information read from the replacement area of the recording medium (see paragraph [0109] where DMA position 1 and DMA position 2 are rewritten to reflect the information regarding the DMA).

Regarding claim 43, the apparatus of claim 42, wherein the controller generates a defect list based on the information read from the replacement area, and rebuilds the temporary defect information based on the previous temporary defect information and the defect list (see paragraphs [0074] and [0075] where the DMA contains PDLs and SDLs and paragraph [0109] where DMA position 1 and DMA position 2 are rewritten)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US PGPub No. 2002/0136537 A1).**

Regarding claim 18, Takahashi teaches the apparatus of claim 16, wherein the controller controls the recording/reading unit to record temporary management

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information lastly recorded in the temporary defect management area in a defect management area (DMA). However, Takahashi fails to teach that the recording of temporary management information occurs during a finalizing of the recording medium (see paragraph [0109] where DMA position 1 and DMA position 2 are rewritten to reflect the information regarding the DMA).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to record the temporary management information in a defect management area during finalization of the recording medium. One of ordinary skill in the art at the time the invention was made would have been motivated to do so in order to duplicate and preserve the temporary management information recorded in the temporary defect management area.

Allowable Subject Matter

Regarding claims 29-33 and 41, none of the references of record, alone or in combination suggest or fairly teach an apparatus, comprising: a recording/reading unit recording and/or reading data with respect to a recording medium; and **a controller determining whether defect management of the recording medium has been successfully completed**, controlling the recording/reading unit to read information regarding a defective area of the recording medium from a replacement area of the recording medium and generating defect information of the recording medium based on the information of the replacement area.

Regarding claims 34 and 35, claims 34 and 35 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. None of the references of record, alone or in combination suggest or fairly teach an apparatus, comprising: a pickup recording and/or reading data with respect to a recording medium; and a controller **determining whether defect management of the recording medium has been successfully completed**, controlling the pickup to scan a portion of the recording medium purportedly containing no recorded data, as identified in a lastly recorded spare bit map (SBM) on the recording medium, in order to verify whether data is recorded in the portion, and updating the SBM to reflect the recording state of the recording medium based on the verification of the portion of the recording medium.

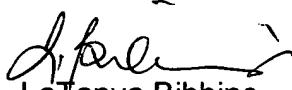
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LaTanya Bibbins
Patent Examiner



WAYNE YOUNG
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